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# How Dried Prunes are Marketed

FRUIT AND VEG. IN  
CURRENT SPECIAL MARKETS

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
MARKETING BULLETIN NO. 68



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July 1979

# How Dried Prunes are Marketed

By Specialty Crops Branch  
Fruit and Vegetable Division, Agricultural Marketing Service

## INTRODUCTION

Prunes have an ancient heritage and are said to have originated in western Asia near the Caucasus Mountains along the Caspian Sea. They were carried westward to the Balkans and south-central and western Europe where they are still grown.

Louis Pellier, a French nurseryman, introduced prune trees into America in 1856. After an earlier unsuccessful California gold mining venture, he settled in the Santa Clara Valley and returned to the nursery business. His brother, Pierre, brought him a selection of fruit cuttings for nursery stock from France.

In this selection were cuttings of "La Petite d'Agen," a prune plum that had originated in southwest France. The cuttings, stuck in potatoes to provide necessary moisture, were shipped packed in sawdust. These cuttings produced trees that are the ancestors of the present-day California French prune. Currently this species makes up 95 percent of California's total prune acreage and a majority of the world's supply of dried prunes.

Drying of fruit, such as prunes, is one of the oldest methods of preserving. Years ago it was the most economical way to have fruit out of season and prolong its availability. However, improved shipping methods, better storage facilities, and modern production techniques have made fruits available the year round. Fresh, frozen, or canned fruit can be shipped thousands of miles economically and can be stored until needed. Consequently, dried fruit per capita consumption has been cut in half since 1920, and production of dried prunes has declined accordingly.

# PRODUCTION

## United States production

Most U.S. dried prunes are produced in California (*table 1*). In 1976, California's acreage totaled about 82,423 acres, and was concentrated on the north and central coasts, and in the Sacramento and San Joaquin Valleys. These areas combined account for about 98 percent of the dried prunes produced in the United States.

Prune plums also are grown in Oregon, Washington, Idaho, and Michigan. Most of these prune plums are generally sold in the fresh market, canned or frozen. However, some prunes are dried in the Willamette Valley of western Oregon.

Total U.S. production since 1952 has averaged around 152,200 tons annually, with California production averaging around 150,000 tons. Production was greater in the 1930's and in 1938 it peaked at 302,200 tons. The largest crop in recent years was in 1973 when production totaled 208,157 tons. Proportionately, the biggest long-term drop in production occurred in Washington and Oregon. Prune production can be affected by climatic conditions, as it was in the spring of 1972 when freezes during the bloom stage cut production to 77,570 tons.

**Table 1. U. S. prune production**

Crop year	California	Oregon	Washington
0	1	2	3

— Tons —

### Averages

1930-34	202,600	22,860	3,600
1935-39	227,800	20,500	2,280
1940-44	179,800	6,040	290
1945-49	194,600	5,380	170
1950-54	157,200	2,680	-
1955-59	144,800	3,830	-
1960-65	147,800	1,922	-
1965-69	149,200	1,615	-

### Annual

1970	200,000	1,129	-
1971	131,000	1,570	-
1972	77,000	570	-
1973	205,000	3,157	-
1974	142,000	1	-
1975	149,000	2,257	-
1976	148,000	1	-
1977p	157,000	1	-

1. Missing data not published to avoid disclosure of individual operations.

P = Preliminary.



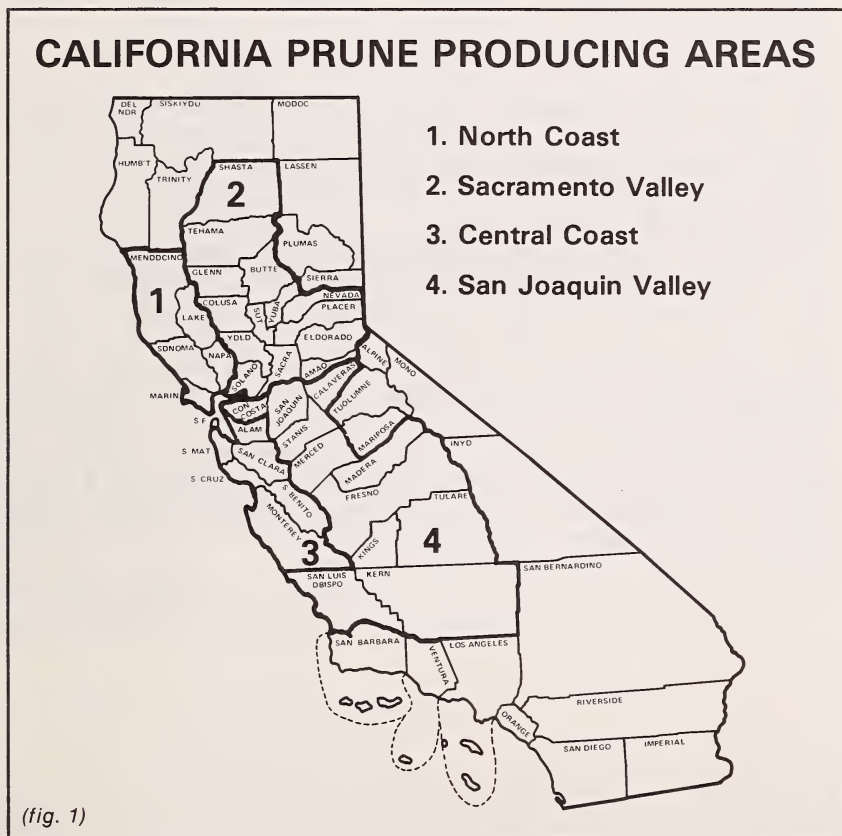
## California acreage, production, and yields

California prune acreage increased considerably in the late 1800's when dried fruits were the only economical choice for fruit or fruit products on a year-round basis. By 1900, there were some 90,000 acres of prunes grown in California. The teens and the twenties were expansion years for prunes, and nonbearing acreage peaked at 55,659 acres in 1922. Total prune acreage reached its peak in 1926 at 193,571 acres.

Since these peaks, prune acreage has decreased. By 1955, total California prune acreage had declined to 100,146 acres, a 48 percent drop in 29 years. Prune acreage turned slightly upward in the late 1960's, but since then it has dropped rapidly to 83,146 acres in 1977, some 57 percent below the 1926 peak.

Practically all of California's prune acreage has been centered on the north and central coasts, and the Sacramento and San Joaquin Valleys. (*fig. 1*). The acreage decline was approximately equal in the three main producing areas—north coast, Sacramento Valley, and central coast—until about 1955 (*table 2*).

Prune production in the main California producing areas has shifted along with the acreage changes over the years. Production in the north coast area dropped steadily, both in tonnage prod-



**Table 2. California total prune acreage by area**

Crop year	North coast	Sacramento Valley	Central coast	San Joaquin Valley	Total <sup>1</sup>
0	1	2	3	4	5
<i>Acres</i>					
<b>Averages</b>					
1937-39	42,666	36,704	71,999	10,272	162,378
1940-44	39,296	31,694	66,804	6,692	144,958
1945-49	36,549	30,331	62,220	4,950	134,399
1950-54	28,910	24,569	49,566	1,638	104,842
1955-59	27,541	32,959	42,167	1,170	103,889
1960-64	26,707	46,149	35,516	2,453	110,874
1965-69	23,695	59,033	28,540	5,577	116,848
<b>Annual</b>					
1970	20,360	61,260	22,001	6,627	110,250
1971	14,334	61,323	18,326	7,456	101,440
1972	12,397	60,137	16,026	7,464	96,027
1973	7,775	60,223	14,246	7,693	89,939
1974	7,626	60,261	12,149	7,457	87,495
1975	7,606	61,344	9,816	7,507	86,275
1976	7,502	61,304	5,706	7,908	82,423
1977	6,933	61,830	6,319	8,056	83,146

<sup>1</sup>. Minor acreages in Southern California are included in total only.

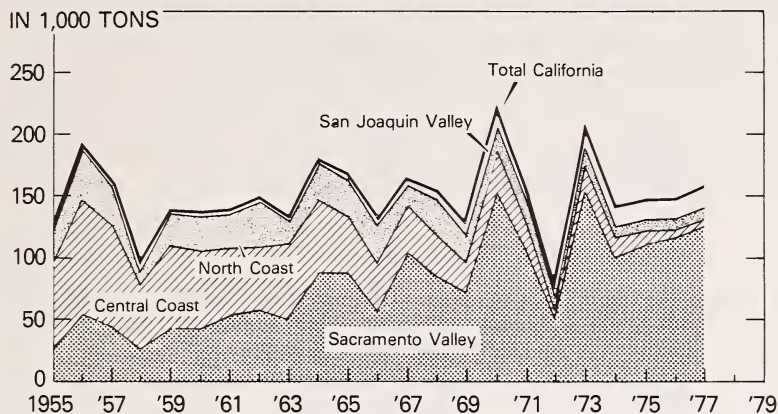
uced and the percentage of total crop. It now has the lowest total production of the four producing areas. During the 1950-54 period, the north coast area produced about 20 percent of the total California prune crop; by 1976, this percentage had dropped to about 6 percent.

During the 1950-54 period, the central coast area, chiefly Santa Clara County, produced about 54 percent of the total prune crop, while the Sacramento Valley produced about 26 percent. By 1976, a big reversal had occurred. By that year, production in the central coast area declined to only 5 percent of the total crop, while production in the Sacramento Valley area increased to 79 percent of the total crop.

The San Joaquin Valley area, since 1960, has reported the heaviest yield of prunes per acre, with an average of 2.4 tons. Yields in the Sacramento Valley area have averaged slightly lower during the same years. (*fig. 2*).



## CALIFORNIA DRIED PRUNES, QUANTITY RECEIVED BY PACKERS BY AREA OF PRODUCTION



USDA

NEG. AMS 728-78(12)

(fig. 2)

**Sacramento Valley area.** The Sacramento Valley area includes the counties of Amador, Butte, Colusa, El Dorado, Glenn, Nevada, Placer, Sacramento, Shasta, Solano, Sutter, Tehama, Yolo, and Yuba. Prune acreage declined in these counties until about the mid-1950's. About that time, new plantings began to reverse the trend. The upward trend peaked at about 63,000 acres in 1969, making this by far the largest production area in the State. Since then, a slight decline in total acreage has occurred, and in 1977 acreage stood at 61,835 in the Sacramento Valley area.

**North coast area.** The north coast production area includes the counties of Lake, Marin, Mendocino, Napa, and Sonoma. In 1950, two of these counties, Napa and Sonoma, had 28,700 acres of prune orchards, or about 26 percent of the total California acreage at that time. However, large numbers of the prune trees planted in these two counties have since been removed. Many growers planted wine grapes on the cleared land. By 1977, there were only 6,250 acres of prune trees remaining in Napa and Sonoma counties, or about 8 percent of California's total acreage.

**Central coast area.** Alameda, Monterrey, San Benito, San Mateo, Santa Clara, and Santa Cruz counties make up this production area. In 1950, Santa Clara County was considered to be the prune capital of the world. At that time, some 47,800 acres of prunes were grown in Santa Clara County, or about 43 percent of California's total acreage. However, this situation changed rapidly in the following years, and by 1977 Santa Clara County had only about 5,300 acres of prunes remaining. In 1977, total prune acreage in this area dropped to 6,319 acres, making this area the smallest in acreage in California. Much of the acreage decline has been brought about by increasing urbanization of the area.

**San Joaquin Valley area.** The San Joaquin Valley area includes the counties of Calaveras, Contra Costa, Fresno, Kern, Kings, Madera, Merced, San Luis Obispo, San Joaquin, Stanislaus, and Tulare. Prune acreage hit a low in this area in the late 1950's. New plantings brought about a slow increase in total acreage in the early 1960's and it reached a high of 8,056 acres in 1977. Presently, about 56 percent of the total acreage in the San Joaquin Valley area is in Tulare County. Since the early 1940's and until 1976, the San Joaquin Valley area has had the smallest total acreage of the four main prune-producing areas of California.

## **California grower price and value of production**

Average prices to prune growers have fluctuated over the years due to the changes in supplies, and show an upward long-term trend (*table 3*). For the 10-year period 1967-76, returns ranged between \$202 and \$535 per ton, averaging \$362. The large 1970 crop returned the lowest prices of the decade. Growers received a record high price of \$535 per ton in 1972 because of that year's extremely short crop. The influence of the short 1972 crop carried into the following year when growers received \$462 per ton for a large output.

The farm value of prune production in California for the 10-year period 1967-76 ranged between \$37 million and \$94 million, averaging \$53 million. The farm value for California prunes in 1976 totaled \$62 million.

**Table 3. California: Grower prices and value of production**

Crop year	Season average grower price	Value of production
	1	2
	- Dollars -	- Thousand dollars -
<b>Averages</b>		
1950-54	216	33,667
1954-59	269	38,901
1960-65	304	44,897
1965-69	284	42,347
<b>Annual</b>		
1970	202	40,400
1971	287	37,597
1972	535	41,195
1973	462	94,710
1974	440	62,480
1975	402	59,898
1976	412	60,976

## Varieties

California prunes may be divided into two general types, French and non-French. The French-type varieties are descendants of the original Prune d'Agen that was brought from France in 1856. The French-type prune is generally medium-sized, oval-shaped, somewhat elongated, with a small smooth pit. The skin is purplish, and the flesh is golden yellow. The trees are self-pollinated. Today almost all of California's prunes are French varieties and the percentage is steadily increasing. In 1937, French varieties accounted for 83 percent of California's prune acreage, and the percentage increased to 96 percent by 1977 (*table 4*).

The non-French varieties of prunes include the Imperials, Sugar, Robe de Sergeant, and a few other minor varieties. The Imperial variety also originated in France about 1870. The fruit of this variety is large, oval-shaped with a purplish skin, while the flesh is yellow with a greenish tinge. The fruit requires special attention when drying.

Of the non-French varieties, Imperials account for the largest acreage, with 3 percent of the total acreage in 1977, down from 8 percent in 1937. These trees require pollination from other varieties. Most prunes sold as jumbos are of the Imperial variety. Jumbo-size prunes are usually in short supply and command a premium price.

**Table 4. California total prune acreage by variety**

Year	French	Imperial	Robe de Sergeant	Sugar	Other	Total
	1	2	3	4	5	6
— Acres —						
1937	136,400	14,088	2,790	7,888	4,232	165,398
1940	127,368	13,613	2,752	7,380	2,407	153,520
1945	116,891	12,697	2,462	6,373	1,752	140,175
1950	95,451	8,679	1,502	3,863	1,002	110,479
1955	88,978	6,873	1,307	3,143	855	101,156
1960	97,437	6,117	1,200	2,175	672	107,601
1965	107,434	5,350	1,122	1,622	543	116,071
1970	103,259	4,291	1,000	951	760	110,261
1975	81,786	2,848	600	379	662	86,275
1977	79,538	2,228	468	237	675	83,146

The Sugar variety of prunes was introduced in 1899. The fruit of this variety is larger than fruit from the French variety and also matures earlier. Of the total California acreage in 1977, Sugar prunes represented only 0.3 percent, a decline from 4.8 percent in 1937.

The Robe de Sergeant variety has a purplish skin with a greenish-yellow flesh, and is about the same size as the French prune. The acreage percentage of this variety fell from 1.6 percent in 1937 to 0.6 percent in 1977. There are a few other minor varieties of non-French-type prunes grown, but they totaled approximately 0.8 percent of the total California crop in 1977.

## Soil and cultural practices

A deep, well-drained, medium-textured soil is generally considered the most desirable for growing prunes, since high yields of large-size fruit can be produced. Growers who plant prunes in heavy soils that are often too wet must use a different type of rootstock. Prunes grown on light sandy soils require more frequent fertilization and irrigation.



**Climate.** A rather long season of clear, warm weather is needed for growing prunes to allow for proper maturity of the fruit. These conditions are generally found in the north coast, central coast, Sacramento and San Joaquin Valley areas of California.

Prune trees bloom later than some fruit and nut trees. Consequently, prune blossoms are less likely to be damaged by frost (*fig. 3*). Prune trees require a period of cold weather during their dormant season, so they are more difficult to grow in southern California where winters are warmer.



(*fig. 3*)

Prune orchard in full bloom.

**Orchard layout.** Most prune orchards are planted in a square; that is, where the trees within the rows and the rows are the same distance apart—about 20 feet. Some orchards have been planted in the shape of a hexagon; each tree is equidistant from all surrounding trees. This allows some 15 percent more trees per acre than the square system, but leaves less space for use of equipment.

Hedgerows, where the trees in the row are planted closer together, are becoming more popular since they allow for more trees per acre without restricting machinery movement.

Generally, new prune orchards are planted during the first two months of the year. In new orchards, where the main variety planted is nonpollinating, one-fourth to one-half of the trees are generally of a pollinating variety.

**Pruning.** The pruning of trees during their first few years is aimed at developing well-spaced main limbs and strong crotches. Once the new trees begin to bear fruit, usually in 4 to 6 years, the pruning process consists of thinning out the branches to control crop size and to renew fruiting wood. Dormant pruning is done during late winter months. Older prune trees usually produce more consistent crops of large-size prunes when the trees are pruned regularly. The economic life of a prune tree may extend from 25 to 35 years depending on its care and the type of soil in which it has been planted.

**Diseases and insects.** Prune trees are subject to certain parasitic diseases such as: Brown Rot, a fungus which can destroy blossoms, twigs, and cause the fruit to rot; Bacterial Canker, a bacteria which damages limbs and trunks and kills young prune trees; Oak Root Fungus, which invades the tree's root system; Crown Gall, a bacteria that develops on the roots and crowns of prune trees, restricting sap flow; Prune Leaf Rust, a fungus which causes heavy leaf fall in late summer or fall; and Cytospora, a fungus which invades the tree branches causing dieback.

Prune trees are subject to attack by sucking insects such as aphids, pear thrips, red spiders, and scale insects; and chewing insects such as leaf rollers, red humped caterpillars, peach twig borers, and tree borers.

## Harvesting

California prune growers generally harvest their crops from mid-August through mid-September, depending on fruit maturity. Formerly, prunes were harvested by allowing them to drop naturally to the ground to be picked up by hand or by machine. However, today, most prunes are mechanically harvested by shakers and catching frames.

When prunes are mature and ready to be harvested, a self-propelled mechanical shaker is attached to the tree trunk. The shaker has a fabric catching frame which is spread under the tree, surrounding the trunk. The shaker is then activated to shake the fruit from the tree limbs. The fruit falls on the catching frame and travels to a bin by a conveyor belt. The catching frame and mechanical shaker may be separate machines or part of a single machine that does the whole operation. If the shaker is not handled properly, the tree bark may be injured allowing a fungus disease, *Ceratomyces* Canker, to enter the crushed bark and kill the tree.





(fig. 4)

Picking bin load with fresh prunes ready for moving to dehydrator.

**Dehydrating.** Growers deliver the prunes to the packer in a dried form. Bins of fresh prunes are transported from the orchards to a dehydrator for drying (fig. 4).

At the dehydrators the prunes are washed and spread on large wooden trays which are placed on cars (fig. 5). Next, these cars are rolled into a dehydrator tunnel (fig. 6). In the drying tunnels, the prunes are subjected to a constant flow of hot dry air for 18 to 24 hours. Temperature and humidity are controlled in the tunnels so that the fruit will dry properly. A hygrometer, which has a dry bulb and a wet bulb thermometer, is used to monitor the moisture level and temperature of the air.

The drying process reduces three pounds of fresh fruit to about one pound of dried prunes. This 3:1 relationship is referred to as the drying or dryaway ratio. The dried prunes contain about 18 percent moisture when they are delivered to the packer's plant. These prunes are quite firm and can be stored easily.



(fig. 5)

Trays of prunes on cars ready to be moved in dehydrator tunnel.

## MARKETING

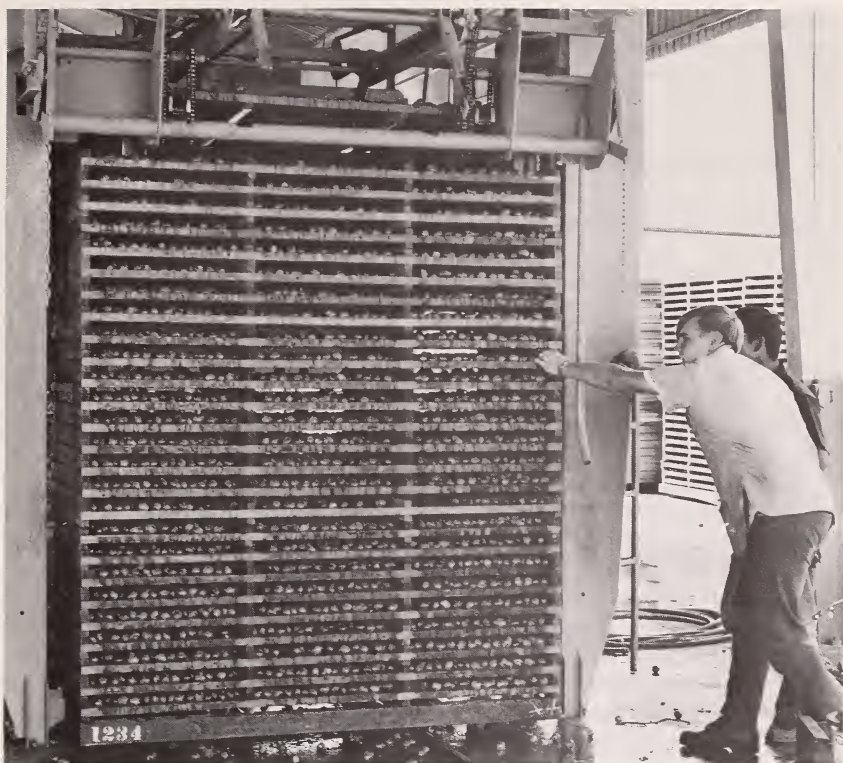
### Processing

Growers deliver the dried prunes from the dehydrator to independent packers or grower marketing cooperatives. At this point, the prunes are inspected for quality and size-graded into various sizes by moving them over a large shaker screen. The dried prunes are then stored in the same "natural" condition as received from the growers.

Packers, when buying prunes, use a field pricing schedule based on size, quality, and variety to determine payment for the grower's prunes. A premium is generally paid for large-size prunes for packaging. Prices for French variety prunes and those prunes of quality suitable for use as dried prunes are higher than prices for those suitable only for manufacturing purposes, such as for juice.

The independent packers usually pay on delivery, while the





(fig. 6)  
Car of prunes going into dehydrating tunnel.

cooperatives, which are grower-owned, pay a cash advance to each grower on delivery, plus a series of progress payments throughout the year as the crop is marketed.

Packers process the dried prunes by rehydrating, grading, sizing, packaging, and re-inspecting to meet the particular specifications of the trade. Retail buyers who purchase prunes for sale in grocery stores and supermarkets buy smaller consumer-pack items. Industrial and institutional buyers, food service operators, bakers, and confectioners, usually buy in bulk—25- or 30-pound cartons.

To reach various buyers, the packer who processes the prunes generally uses his own sales department or food brokers who sell on a commission basis. Shipments move to destination by rail or truck. Some packers facilitate delivery to distant points by maintaining warehouse stocks outside California, generally in the principal markets of the United States.

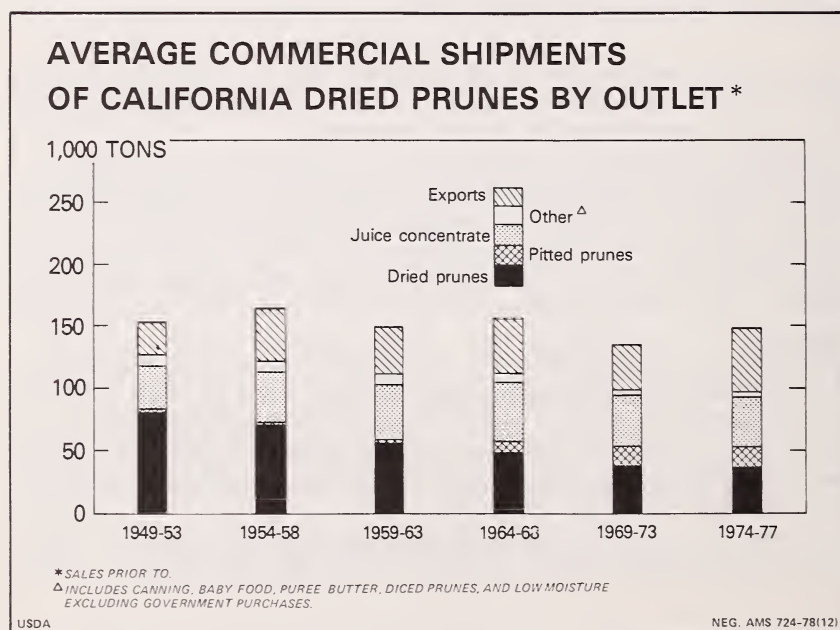
The prune industry obtains information needed to make marketing decisions from several private and Government sources. They

obtain information on acreage, grower prices, and production estimates from the California Crop and Livestock Reporting Service. The Federal-State Market News Service, a cooperative effort of the U.S. Department of Agriculture, and the California Department of Food and Agriculture also collect and disseminate price and marketing information to the prune industry.

**Products.** Historically, the major prune product has been the dried prune (*fig. 7*). To prepare prunes for sale as dried prunes, the packer takes them from storage bins and moves them through a hot water bath to cleanse and partially rehydrate the fruit. This process raises the moisture content from about 18 percent into a 26- to 32-percent range. It also makes the prune softer and more pliable for consumer acceptance. After the hot bath, the prunes are ready for packaging for shipment as dried prunes, or to be pitted and packed and shipped as pitted dried prunes.

Dried prunes are generally packed in consumer-size packages or prepared as a bulk item. Consumer packs normally contain twelve ounces, one or two pounds, and are packed in cartons or in visipack bags. Consumer packs retailed through grocery stores are packed mostly in the following size categories: Extra large - 36 to 43 prunes per pound; large - 43 to 53 prunes per pound; medium - 53 to 67 prunes per pound; and breakfast size - 67 to 85 prunes per pound.

Bulk dried prunes are usually packaged in fiberboard, plastic-lined cartons with a 25- to 30-pound capacity for use in various



(fig. 7)

products or to be re-packaged in smaller units. Bulk prunes are mostly packed in one of the following size categories, which is equal to the number of prunes in each pound: 15/20, 15/22, 18/24, 20/30, 25/35, 30/40, 35/45, 40/50, 50/60, 60/70, 70/80, 80/90, and 90/100.

Dried prunes, pitted or unpitted, are sometimes packed and sold in cans of various sizes. The can size is based on the number of prunes, free of liquid, per pound it contains. Cans range from an 8-ounce can to the institutional No. 10 can.

Canned prunes, either pitted or unpitted, are packed in three styles: Regular pack, nectarized pack, and moist pack. The regular pack consists of prunes packed with ample liquid for ready serving. The nectarized pack contains about one-third more prunes per can than the regular pack, and less liquid.

Prunes in the moist pack are basically the same as dried bulk prunes except that they have a slightly higher moisture content. Their moisture content averages about 38 percent, compared to 30 percent for bulk dried prunes; and they are packed without the addition of liquids. These prunes, pitted or unpitted, are also packed in plastic bags or consumer-size cartons for sale as a convenient snack item.

Dried prunes that are to be sold pitted are moved to the pitter after they have gone through the hot bath. Pitting can be done by two methods. The first method, that of individually pitting each prune, is used when the appearance, shape, and identity of the pitted prune is important. This method of pitting produces two different types of pitted prunes. One has a uniform depression where the pit was removed and the other shows little change in shape and minimal skin break after the pit has been removed. The second pitting method leaves prunes with a flattened appearance. Prunes pitted by this method are best suited for use as an ingredient when appearance and identity are not important.

Pitted prunes in both bulk and consumer-type packs are sold and marketed on the basis of their original unpitted size. Pitted prunes are packed in the same type containers as unpitted dried prunes. Twelve ounces of pitted prunes is equivalent to about one pound of unpitted prunes.

Another dried prune product is prune juice, which is made by cooking prunes in tanks of hot water. After cooking, the juice is drained from the tanks. Juice from different lots is blended to provide a uniform taste and composition. It must contain not less than 18.5 percent, by weight, of water soluble solids extracted from the dried prunes. Prune juice is sometimes concentrated by lowering the water content to reduce shipping and handling costs and to preserve it.



Diced prunes were developed for use as an ingredient. Diced prunes are dried prunes cut up by various types of dicing equipment and generally sold for baking purposes.

Other products made from dried prunes include baby foods, prune butter, prune paste, and purees. Baby food formerly had the highest sales of this group. However, sales to that outlet have steadily diminished.

The volume of prunes used for various prune products has shifted in the past 20 to 30 years. For example, the portion of the total prune crop sold as unpitted prunes decreased from 85,200 tons in 1950 to approximately 36,300 tons in 1976. Pitted prune sales increased from 500 tons to about 29,300 tons in 1976. This increase came with the advancement made in pitting machinery and increased consumer demand.

The quantity of prunes used in prune juice and concentrate increased during the 1950's and early 1960's, but dropped off by 1977. In 1950, 30,700 tons of prunes were used to make juice; this increased to about 54,400 tons by 1965, and then declined to about 43,400 tons in 1976. About 44 percent of all dried prunes sold domestically in 1976 were used for prune juice and concentrate.

Canned dried prunes, baby food, and purees used some 15,800 tons of dried prunes in 1950. Utilization of dried prunes by these outlets declined from approximately 8,000 tons in 1960 to about 5,000 tons in 1976 due to lack of consumer demand for these products.

## **Marketing cooperatives**

Prune growers in the early years of the industry formed many marketing organizations, usually in response to low field prices and poor grower marketing conditions. These organizations generally proved ineffective and were quickly abandoned. It became obvious that industrywide grower cooperation would be needed to maintain a successful organization.

Finally, in March 1917, California Prune and Apricot Growers, Inc., was formed. It began operations with grower contracts totaling some 75 percent of the State's prune acreage. Over the years, the association expanded its operations and modernized its plant and warehouse facilities.

In 1958, the cooperative changed its name to Sunsweet Growers, Inc. Then in 1974, the prune growers and the walnut growers cooperatives formed a joint cooperative. Each cooperative retained control of its assets. The new joint cooperative, Diamond Sunsweet, Inc., performs specific marketing functions for its two member cooperatives<sup>1</sup>. An avocado growers cooperative also markets some prunes for its member growers.



## **Independent packers**

Independent packers market that portion of the prune crop not marketed through the cooperatives. These packers include corporations, packing companies, and grower-packers. The grower-packers market their own prunes, and in many cases, additional ones acquired from other growers. The three largest independent packers and the prune growers cooperative market over 85 percent of the prune crop.

## **Bargaining association**

In 1968, some prune growers formed the Prune Bargaining Association (PBA). This association was organized to represent growers who are not members of the cooperative and, consequently, sell to independent packers. The PBA bargains with independent packers for terms of sale and a field pricing schedule which is based on size, quality, and variety.

## **Export marketing**

Prune exports during recent years have ranged from 34,600 to 65,000 tons (*table 5*). Approximately 75 to 80 percent of that tonnage was exported to Europe. Italy is the largest consistent user of U.S. dried prunes; since 1965 exports to that country have ranged from 6,440 to 9,700 tons per year. France often buys sizeable quantities to supplement its own production during short crop years. Purchases by the French have ranged from 2,225 to 12,871 tons since 1965. Large-size U.S. prunes are very popular in Europe, and these large sizes account for about 80 percent of U.S. prune exports to European countries.

Canada is the largest market for U.S. dried prunes outside of Europe. Since 1965, Canada has purchased from 7 to 12 percent of total U.S. prune exports. Tonnage bought by Canada since 1965 has ranged from 4,200 to 5,800.

The U.S. supplies the major portion of dried prune exports to Mexico, Venezuela, and Japan. However, these three countries combined have accounted for only 5 to 8 percent of U.S. dried prune exports in recent years.

The U.S. dried prune industry, in recent years, has conducted advertising and promotional campaigns in Europe and Japan in an attempt to increase exports to those areas.

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<sup>1</sup>The names are necessary for a factual report. The Department neither guarantees nor warrants the standards of the products. The use of these brand names by USDA implies no approval of the products to the exclusion of others which may also be suitable.

**Table 5. Dried prunes: Exports from the United States**

For year beginning September 1	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77
	1	2	3	4	5	6
<i>— Tons —</i>						
<b>Europe</b>						
Belgium-Luxembourg	1,919	1,567	2,154	1,614	1,614	1,914
Denmark	3,130	2,417	2,630	2,422	2,890	3,429
Finland	2,353	1,608	2,396	2,687	4,301	3,072
France	2,225	4,598	5,203	6,588	12,871	6,076
Germany, West	1,530	1,121	5,816	3,854	4,016	4,275
Italy	9,522	6,427	9,072	5,515	9,699	7,365
Netherlands	1,078	500	1,649	1,409	1,628	841
Norway	1,964	632	2,466	1,252	2,185	1,915
Poland	-	-	1,518	1,203	569	1,271
Spain	433	485	828	831	1,888	1,045
Sweden	2,838	2,611	3,510	2,730	3,432	3,266
United Kingdom	5,196	3,194	6,252	4,051	3,614	2,315
U.S.S.R.	-	-	-	-	2,463	2,036
Other Europe	1,118	778	1,742	1,007	1,348	1,450
Total Europe	33,306	25,938	45,236	35,163	52,518	40,269
<b>Other countries</b>						
Canada	5,502	4,190	5,584	5,238	4,563	4,622
Brazil	396	82	1,350	345	103	-
Mexico	881	1,246	873	747	1,635	732
Venezuela	1,277	586	1,345	1,188	916	1,093
Japan	1,050	843	802	775	1,242	1,715
Other	2,933	1,702	4,017	4,113	4,045	4,247
Total	12,039	8,649	13,971	12,406	12,504	12,409
<b>Grand total</b>	<b>45,345</b>	<b>34,587</b>	<b>59,207</b>	<b>47,569</b>	<b>65,023</b>	<b>52,678</b>

## Marketing order programs

Dried prune marketing orders are authorized by both Federal and California legislation. The dried prune industry initiated a Federal program in 1949 and a State program in 1952.

The Federal dried prune marketing order program is administered locally by a 21-member Prune Administrative Committee under the supervision of USDA. This committee, with an office in San Francisco, is composed of 14 growers and 7 handlers. These members are nominated by the groups they represent, and appointed by the Secretary of Agriculture.

The Federal marketing order provides authority for volume regulations and grade and size requirements on receipts and shipments of prunes by packers. It also authorizes the use of pack

specifications and market research and development programs. The committee studies supply and demand conditions, and makes recommendations to the Secretary of Agriculture on regulations to apply each year. The Secretary makes the final decision on regulations issued. Cost of the program is covered by an assessment levied on packers.

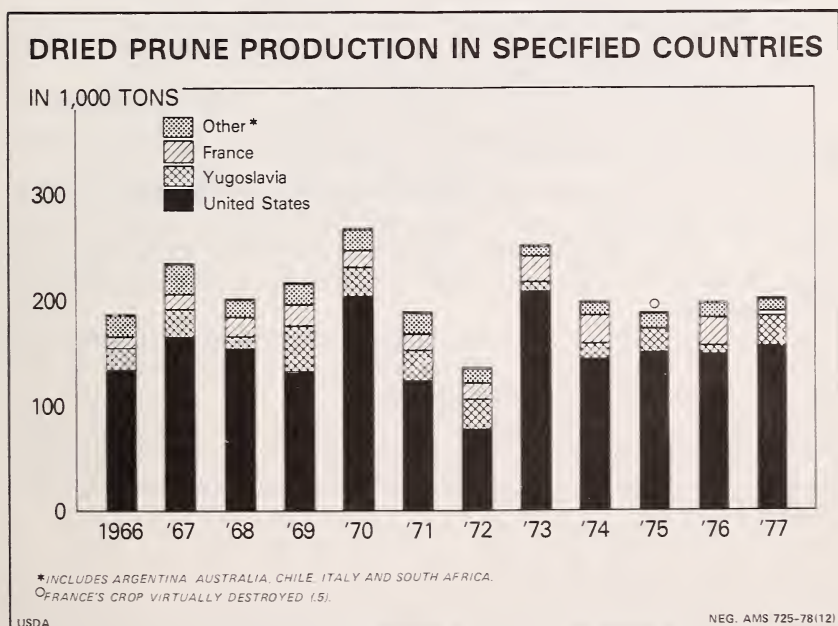
The State marketing order for dried prunes is administered by a 21-member California Prune Advisory Board, whose office also is in San Francisco. This order authorizes trade promotion, consumer advertising, and research to expand markets. Cost of the program through the 1975 crop year was paid for by assessments levied on growers and packers. Since then, assessments have been levied only on growers, since only grower research is currently being conducted under the program.

## WORLD PRODUCTION AND TRADE

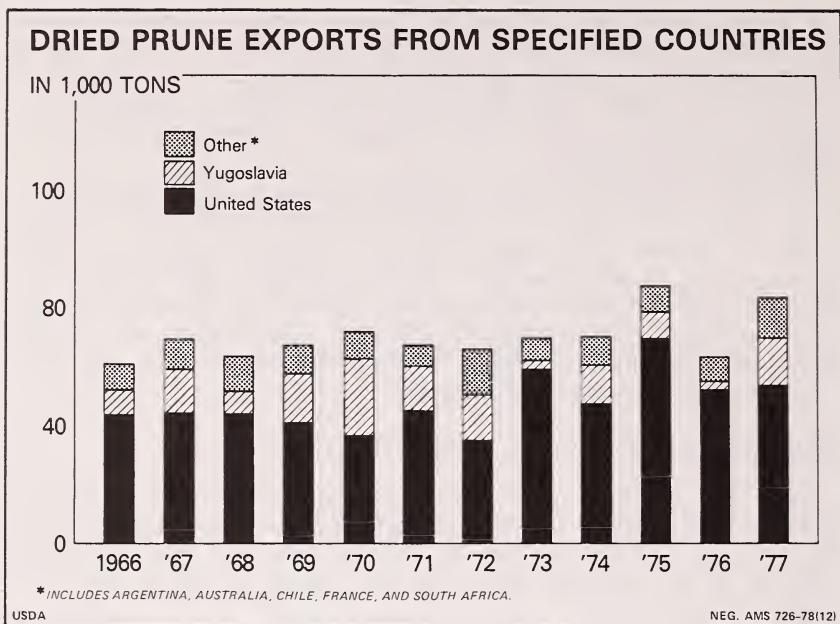
The world's major dried prune producing countries, listed in order of importance, are the United States, Yugoslavia, France, Romania, and Bulgaria (*fig. 8*). Prunes also are produced and exported from countries like Argentina, Australia, Chile, Italy, and South Africa (*fig. 9*).

Yugoslavia grows a large crop of plums each year, but normally dries only around 10 percent of each crop for use as dried prunes. The bulk of the crop is used to make Slivovitz, a dry, colorless plum brandy.

Prunes are produced throughout France, but commercial production is concentrated in the Garonne River Valley area of Aquitaine in southwest France.



(*fig. 8*)



(fig. 9)

## SUMMARY

Prune plums were first planted in California in 1856. California currently produces about 98 percent of the total U.S. dried prune crop. The United States is the world's largest producer of dried prunes, most of which are the French type.

The major portion of the California dried prune production is marketed by one grower cooperative and three independent packers.

The California dried prune industry operates under both Federal and State marketing order programs. The Federal program provides for volume regulations and grade and size regulations. The State program provides for trade promotion, advertising, and research projects.

In 1976, 60 percent of total industry shipments were used domestically as dried prunes, pitted prunes, and prune juice. Most of the balance of the crop was exported.

The United States exports dried prunes to many foreign countries, with approximately 70 to 80 percent of all exports going to Europe. The other major prune-producing countries are Yugoslavia and France.

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